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NOTES ON AMERICAN SPECIES OF MACTRELLA.

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The species of *Mactrella* are extremely elegant shells, especially those with concentric undulations. There are but few of them altogether, and usually not more than two species in any given fauna, of which one is usually smooth and the other undulated, as in the case of the genus *Labiosa*. They are so fragile that they are generally broken by the waves when cast on the beach, and, being burrowers, are rarely obtained by the dredge, hence are rare in collections. They are confined to the warmer waters of the globe and perhaps most numerous, though not of largest size, among the islands off the coast of southern Asia.

There is but one species in the American Atlantic tropics, the *Mactra alata* Spengler, 1802. Gmelin confounded it with the *M. striatula* Linné, and Lamarck gave to the same combination of the hinge elements, Gray in January, 1853, founded his genus *Mactrella*, while in April of the same year Mörch proposed for it the genus *Papyrina*.

The only other East American species known to date is the *Mactrella iheringi* Dall (Nautilus, Mar. 1897; figured in Proc. U. S. Nat. Museum, 1902, pl. 32, fig. 8) from the coast of southern Brazil, which approaches more nearly to the typical *Mactras* in general form than any other species of the genus.

The West American analogue of *M. alata* is the *M. exoleta* Gray (1838) which differs by having the margin of the escut-

cheon angular instead of keeled, and which was named *Lutraria ventricosa* by Gould in 1851. The radial ridges on the escutcheon are individually variable and the worn valve for which Mörch (Nal. Blatt. 1861) proposed the name of *subalata* was a specimen of *alata* either derived from ballast or otherwise transported from the Atlantic coast of Costa Rica.

A new species from the west coast of Mexico and belonging to the group of *M. alata* is described below.

The *Mactrella* (*Harvella*) *elegans* Sowb., is one the most beautiful and fragile bivalves of the family. Confounded with *Ræta canaliculata* by early writers, it was referred to the Florida fauna in the Conchologia Iconica. This error, and a certain variability of outline common to most Mactridæ, led Conrad in 1867 to propose the name of *pacifica* for the supposed Pacific coast form. But there is at present no evidence that such a shell occurs in Atlantic waters.

The known distribution of the American species of the group is as follows :

ATLANTIC WATERS.

MACTRELLA ALATA Spengler.

Porto Rico, Jamaica, Nicaragua, Costa Rica, the north coast of South America and south to Ceara, Brazil.

MACTRELLA IHERINGI Dall.

Santos and Sao Paulo, Brazil.

PACIFIC WATERS.

MACTRELLA EXOLETA Gray.

Mazatlan, West Mexico, to Panama and Guayaquil.

MACTRELLA CLISIA n. sp.

Manzanillo, West Mexico, to Santa Elena, Ecuador.

MACTRELLA (*HARVELLA*) *ELEGANS* Sowerby.

Panama.

MACTRELLA CLISIA n. sp.

Shell white, extremely arcuate, with the silky periostracum

varying from pale strawcolor to blackish brown ; anterior slope longer than the posterior, rather conspicuously compressed and attenuate, with no circumscribed lunule ; posterior slope flattened, externally bordered by a sharp angle surmounted, as in *M. alata*, by an elevated thin keel ; the inner margins pout a little near the beaks, the middle of the flattened space has in each valve a single conspicuous rib ; the cordate space between these ribs are somewhat concave ; the spaces between the ribs and the keels are flat and from the distal ends of the ribs to these of the keels the valve margin show a wide lanceolate gap ; there is also a narrow anterior basal gap ; the hinge is normal ; the surface of the valve smooth except for lines of growth ; the pallial sinus short and angular ; the basal margin prominently arcuate and the middle of the shell inflated. Length 78, height 66, diameter 34 mm.

There is a constriction in front of the keel which varies in strength in different specimens. The shell is divided from *M. exoleta* by the presence of the keel, the latter possessing only an angle ; it differs from *M. alata* in its exaggerated arcuation, much higher beaks and anterior attenuation.

STUDIES IN NAJADES.

BY A. E. ORTMANN.

(Continued from page 143, Vol. 28.)

EURYNIA (MICROMYA) PERPURPUREA (Lea) (See *Lampsilis perp.* Simpson, 1900, p. 558).

I collected, on Sept. 20, 1912, a number of males in Clinch River, at Richland, Tazewell Co., Va., and on Sept. 21, 1912, a single gravid female, with glochidia, at Raven, Tazewell Co., Va.

Anal separated from the supraanal by a rather short mantle connection, which is shorter than the anal. Inner edge of anal with very distinct crenulations. Branchial with papillae. In front of the branchial, the female has about 10 subcylindrica or subconical papillae of medium size, which are rather distant from each other, and of slightly variable size, and do not extend